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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/516,358

11/24/2004

Hacene Lahreche

15675P556

2705

Blakely Sokoloff Taylor & Zafman
12400 Wilshire Boulevard
7th Floor
Los Angeles, CA 90025

7590

08/08/2008

EXAMINER

SONG, MATTHEW J

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

08/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/516,358

Applicant(s)

LAHRECHE ET AL.

Examiner

MATTHEW J. SONG

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) 20 and 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3-11 and 13-17 is/are allowed.
- 6) ☒ Claim(s) 18, 19, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18-19, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Beaumont et al (US 6,325,850).

In a method of epitaxial lateral overgrowth of GaN, note entire reference, Beaumont et al teaches the deposition of a layer of GaN; deposition a dielectric layer, which is etched; deposition of GaN in the openings and lateral growth until the patterns coalesce (col 3, ln 1-45 and Example 1). Beaumont et al also teaches these surfaces resulting from the coalescence of islands exhibit superior crystal quality to the layers grown heteroepitaxially on sapphire (col 4, ln 15-45) and lower defect density (col 9, ln 1-40). Beaumont et al also teaches the epitaxial layer has a thickness between 1 and 1000 micrometers and it is self-supported after the substrate has been removed.

Referring to claim 18-19, are product-by-process claims which depend from the process of claim 1, which requires separation by ion implantation. The patentability determination of a product-by-process claim is based on the patentability of the product and does not depend on its method of production (MPEP 2113). Beaumont et al discloses GaN film and teaches all of the

instantly claimed product limitations, thus meets claims 18-19. The method of separation does not impart any product limitations to the GaN film of claims 18-19.

Referring to claims 22-23, Beaumont et al teaches a laser diode (col 2, ln 1-5).

Allowable Subject Matter

3. Claims 1, 3-11, 13-17 are allowed.
4. The following is an examiner's statement of reasons for allowance: The closest prior art is Ogawa (US 6,723,165) and Kub et al (US 2003/0064535). Ogawa teaches implanting ions into a sapphire substrate to separate GaN layer which are formed on the substrate by using a laser beam. Kub et al teaches a method of implanting hydrogen into GaN then splitting along the hydrogen implantation. Kub et al and Ogawa does not teach, suggest, or provide any rationale for reworking by ELO and spontaneous separation by returning to ambient.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

5. Applicant's arguments filed 4/30/2008 have been fully considered but they are not persuasive.

Applicant's argument that Beaumont fails to teach spontaneous separation to obtain a self supported GaN is noted but not found persuasive. This is a process limitation in a product claim. The patentability determination of a product-by-process claim is based on the patentability of the product and does not depend on its method of production (MPEP 2113). Here, the product is a freestanding GaN, and how the GaN is obtained is not given patentable weight. The prior art teaches a freestanding GaN; therefore meets the product limitations.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. SONG whose telephone number is (571)272-1468. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew J Song
Examiner
Art Unit 1792

MJS
August 4, 2008

/Robert M Kunemund/

Primary Examiner, Art Unit 1792